

Applicant : Hisashi Shimizu et al.
Serial No. : 09/536898
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Attorney's Docket No.: 10417-031001 S21-
119638M HW

REMARKS

Claims 1 and 4 to 18 have been examined. Claims 1 and 15 have been amended. Support for the claim amendments are found, for example, on page 14, lines 4 to 15 and by Figs. 1 and 3. New claims 19 to 23 have been added. Support for new claims are found in the drawings, the specifications, and the original claims. No new matter has been added.

Claim Rejections – 35 USC §102

Claim 1 has been rejected as being anticipated by Huang et al. Applicants submit that claim 1 as amended is not anticipated by the cited prior art for the following reasons.

Claim 1 recites:

1. (Twice Amended) A hybrid integrated circuit device comprising:
a hybrid integrated circuit substrate in which at least a surface is provided with insulation;
at least a first electrode and at least a second electrode formed on said surface and being disposed to cover substantially the substrate;
a light emitting element connected with the first and second electrodes, **said first and second electrodes configured to reflect light;**
a seal which is disposed in a periphery of said substrate; and
a transparent substrate which is fixed to said hybrid integrated circuit substrate via said seal to enclose the first and second electrodes and the light emitting element within a sealed space formed between said hybrid integrated circuit substrate and said transparent substrate. (Emphasis added.)

The above bolded features are not disclosed, taught, or suggested by the cited prior art. In the office action, the row bus 16 and the column bus 17 are equated with the first and second electrodes of claim 1. The row bus 16 and the column bus 17 are bus lines. They are not disposed to cover substantially the substrate and configured to reflect light. On the other hand, the first and second electrodes of claim 1 do cover the substrate substantially and are designed to reflect light. Thus, the present invention of claim 1 is not disclosed, taught, or suggested by the cited prior art.

Claim Rejections – 35 USC §103

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Claims 4 to 18 have been rejected as being unpatentable over Huang et al. Applicants respectfully disagree. Claims 4 to 14 and 16 to 18 depend on claim 1 directly or indirectly. Claim 1 is not disclosed, taught or suggested by Huang et al. for the reasons stated previously. Thus, claims 4 to 14 and 16 to 18 are also not obvious at least for the same reasons as claim 1.

Furthermore, claim 8 is not merely a design choice. The invention described therein serves a specific function as described on page 30, lines 1 to 16 or page 32, lines 13 to 22. That is, with at least one end the substrate being able to incline, the substrate can be configured to diverge or converge the light emitted from the device. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Here, there is no teaching or suggestion of claim 8 and the specific advantages described in the specification. Claim 8 is patentable at least for these reasons.

With regard to claim 16, Huang et al. does not disclose, teach, or suggest substrates that are arranged in a matrix array and having at least both ends inclined in vertical and lateral directions so as to approximate a paraboloid, and an object to be heated disposed in a focal point of the paraboloid. This is also not merely a design choice. Thus, at least for this reason claim 16 is patentable over Huang et al.

Claim 15 has been amended similarly as claim 1. Thus, at least for the same reasons as claim 1, claim 15 is also not obvious over the cited prior art.

New Claims

Claim 19 recites:

19. (New) A circuit device comprising:
a first substrate in which at least a surface is provided with insulation;
a first electrode and a second electrode formed on said surface;
a light emitting element connected to the first and second electrodes;
a driving circuit for driving said light emitting element;
a seal disposed in a periphery of said first substrate;

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a second substrate comprising a transparent substrate which is fixed to said first substrate through said seal to enclose said first and second electrodes, said light emitting element and said driving circuit within a sealed space formed between said first substrate and said second substrate; and
a spacer to keep the first and the second substrates apart.

At least the bolded feature above is not disclosed, taught, or suggested by the cited prior art. That is, Huang et al. does not show a first substrate and a second substrate that together form a space to enclose and seal the first and second electrodes, the light emitting element and the driving circuit. Huang et al's Fig. 7 shows a structure that seals only the organic light emitting device 40. Thus, claim 19 is neither anticipated nor made obvious by Huang et al.

Claims 20 to 23, which depend on claim 19 directly or indirectly, are not anticipated at least for the same reason as claim 19.

Thus, for the foregoing reasons, all pending claims are believed to be allowable over the cited prior art.

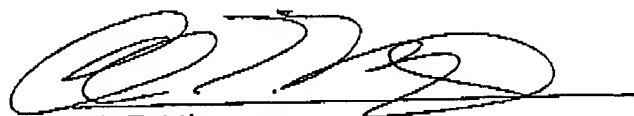
Attached is a marked-up version of the changes being made by the current amendment.

Applicant asks that all claims be allowed. Enclosed is a check for excess claim fees.

Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted.

Date: 12/24/02



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Version with markings to show changes made

In the claims:

Claims 2 and 3 have been cancelled.

Claims 1 and 15 have been amended as follows (claims not amended are shown in bold.
small type-face for ease of reference):

1. (Twice Amended) A hybrid integrated circuit device comprising:
a hybrid integrated circuit substrate in which at least a surface is provided with insulation:
at least a first electrode and at least a second electrode formed on said surface and being
disposed to cover substantially the substrate:

a light emitting element connected with the first and second electrodes, said first and
second electrodes configured to reflect light:

a seal which is disposed in a periphery of said substrate; and

a transparent substrate which is fixed to said hybrid integrated circuit substrate via said
seal to enclose the first and second electrodes and the light emitting element within a sealed
space formed between said hybrid integrated circuit substrate and said transparent substrate.

2. (Canceled)

3. (Canceled)

4. (Amended) A hybrid integrated circuit device according to claim 1, further comprising a gas for
preventing said light emitting element and/or said electrodes from deteriorating, said gas filling the space
defined by said substrate, said transparent substrate and said seal.

5. (Amended) A hybrid integrated circuit device according to claim 1, further comprising a spacer
made of an insulating material which is disposed inside said seal between said hybrid integrated circuit
substrate and said transparent substrate.

6. A hybrid integrated circuit device according to claim 1, wherein a light transmitting resin
which is formed into a lens-like shape is disposed in said light

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emitting element.

7. A hybrid integrated circuit device according to claim 6, wherein a top portion of said light transmitting resin abuts against transparent substrate.

8. (Twice Amended) A consolidated hybrid integrated circuit device according to claim 18 wherein said hybrid integrated circuit substrates are arranged in a matrix array and at least one end of said hybrid integrated circuit substrates is inclined at a predetermined angle with respect to a centrally located hybrid integrated circuit substrate.

9. A hybrid integrated circuit device according to claim 1, wherein said seal is made of a glossy material which reflects light emitted from said light emitting element.

10. A hybrid integrated circuit device according to claim 1, wherein a filling hole for the gas is formed in said seal.

11. A hybrid integrated circuit device according to claim 9, wherein said seal is made of a brazing material formed on a metal film which can be wet with the brazing material.

12. A hybrid integrated circuit device according to claim 1, further comprises an exhausting hole for a gas included inside said seal and a filling hole for the gas which are formed in said seal, wherein the exhausting hole and the filling hole are sealed after exhausting and filling a gas.

13. A hybrid integrated circuit device according to claim 1, wherein said gas is an inert gas.

14. (Amended) A hybrid integrated circuit device according to claim 1, wherein the surface of the hybrid integrated circuit substrate is covered with solder resist.

15. (Thrice Amended) A hybrid integrated circuit device comprising:
a hybrid integrated circuit substrate in which at least a surface is provided with insulation;
at least a first electrode and at least a second electrode formed on said surface and being disposed to cover substantially the substrate;
a light emitting element connected with the first and second electrodes, and said first and second electrodes configured to reflect light;

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a seal which is disposed in a periphery of said substrate; and
a transparent substrate which is fixed to said hybrid integrated circuit substrate via said seal to enclose the first and second electrodes and the light emitting element within a sealed space formed between said hybrid integrated circuit substrate and said transparent substrate, wherein the hybrid integrated circuit substrate is made of glass.

16. (Amended) A consolidated hybrid integrated circuit device according to claim 8, wherein the substrates are arranged in a matrix array and at least both end substrates is inclined in vertical and lateral directions so as to approximate a paraboloid, and an object to be heated is disposed in a focal point of the paraboloid.

17. A hybrid integrated circuit device according to claim 1 wherein:
said first electrode is formed on a region of said surface of the hybrid integrated circuit substrate and said first electrode is made of copper covered with an oxidation resistant metal;
said second electrode is formed on another region of said surface of the hybrid integrated circuit substrate and said second electrode is made of copper covered with an oxidation resistant metal;
a rear face of said light emitting element is electrically connected to said first electrode; and
further comprising an electrical connection between said second electrode and an electrode on a surface of said light emitting element.--

18. A consolidated hybrid integrated circuit device comprising a plurality of hybrid integrated circuit devices according to claim 1 wherein:
said first electrode is formed on a region of said surface of the hybrid integrated circuit substrate and said first electrode is made of copper covered with an oxidation resistant metal;
said second electrode is formed on another region of said surface of the hybrid integrated circuit substrate and said second electrode is made of copper covered with an oxidation resistant metal;
a rear face of said light emitting element is electrically connected to said first electrode; and
further comprising an electrical connection between said second electrode and an electrode on a surface of said light emitting element; and
electrical connections between said first electrodes and between said second electrodes.